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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,025	09/23/2003	Peter Traneus Anderson	133167NV (MHM 15083US01)	1825
23446 7590 05/13/2008 MCANDREWS HELD & MALLOY, LTD 500 WEST MADISON STREET SUITE 3400 CHICAGO, IL 60661			EXAMINER KISH, JAMES M	
			ART UNIT 3737	PAPER NUMBER
			MAIL DATE 05/13/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/669,025	Applicant(s) ANDERSON, PETER TRANEUS	
	Examiner JAMES KISH	Art Unit 3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-10 and 12-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-10 and 12-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Allowable Subject Matter

The indicated allowability of the subject matter of former claims 6 and 11, current claims 5, 7, 8, 12 and 13, and claims 15-20 are withdrawn in view of the newly discovered reference(s) to Schneider (US Patent No. 6,073,043). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 7-10, 12-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raab (US Patent No. 4,054,881) in view of Schneider (US Patent No. 6,073,043). Raab discloses that one approach to provide necessary additional information required for solving ambiguity between diametrically opposite locations in a magnetic tracking system would require moving the generating coils and the sensing coils with respect to each other. While such an apparatus removes some ambiguity about the position on the basis of the field sensed, its accuracy is dependent on the relative motion, and it cannot be used at all without the relative motion. An apparatus is disclosed in Figure 1 (also described in column 3, lines 41-66) and comprises a transmitter coil trio **41**, a receiver coil trio **21**, and a three-axis antenna **45** in connection

with the transmitter. However, the embodiment described in Raab is not in the medical field. Schneider teaches a method and apparatus for determining the position and orientation of a remote object relative to a reference coordinate frame including a plurality of field-generating elements for generating electromagnetic fields and a remote sensor having one or more field-sensing elements for sensing the fields generated and a processor for processing the outputs of the sensing element(s) into remote object position and orientation relative to the generating element reference coordinate frame (see Abstract). "The sensing device can be ... three-axis magnetic sensing elements such as coils of wire. The field generating devices can be ... three-axis coils of wire or magnets. All configurations can be reversed using the principal of reciprocity; i.e., the sensing and generating elements can be interchanged (column 5, lines 35-43)." See column 5, lines 56-62 for discussion of two coordinate systems. Schneider states at column 13, lines 6-10, "adding additional [generating] coils adds additional equations for the least squares problem to fit to. While this can reduce the errors in the P&O solution and increase the region of convergence, it does so at the expense of processing time." "It should be appreciated that any number of sensors could be tracked using generating coils... Additional sensors could be multiplexed into amp via multiplexer and then processed by signal processor (column 25, lines 48-53)." Schneider further provides a sensor with an adhesive patch used to adhere the sensor to part of a patient (column 27, lines 57-60). It would have been obvious to one having ordinary skill in the art at the time the invention was made combine the teachings of Raab and Schneider because the methods presented in Schneider can be applied to other magnetic tracking

Art Unit: 3737

technologies as a final “polishing” stage to improve the accuracy of their P&O solution (see Abstract).

Regarding the use of the term “plurality” in claims 7 and 8, Merriam-Webster defines plural as “of, relating to, or constituting a class of grammatical forms usually used to denote more than one or in some languages more than two.” Therefore, a plurality can be interpreted as two.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES KISH whose telephone number is (571)272-5554. The examiner can normally be reached on 8:30 - 5:00 ~ Mon. - Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Brian Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3737

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Brian L Casler/
Supervisory Patent Examiner, Art
Unit 3737

JMK